



Where Polymers meet Coatings

Belgian Association of
Technicians from the Paint
and Related Industries



www.atipic.be

We would like to invite you to the **Scientific & Academic Workshop** on Thursday October 1st 2026

For whom?

- Technical experts and engineers in R&D coating developments
- Managers in research and innovation
- Professors and students from high school and universities
- Project managers in coating developments
- Lab specialists in paint research
- Research & technical service specialists from companies producing raw-materials for the coating industry.

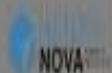
Foreword

The BPG collaborates annually with ATIPIC to host a workshop, bringing the topics of (industrially relevant) polymer chemistry and coatings together.

Program

<u>Time</u>	<u>Subjects/Speakers</u>
13:00 hrs.	Welcome / Registration (coffee/tea)
13:30 hrs.	ATIPIC session, Chairman Dr. Jacques. Warnon
13:35 hrs.	New Siloxane Resins for Heat-Resistant Coatings and Hybrid Coating Systems <u>Dr. Jean-Paul Lecomte (BRB bv)</u>
14:10 hrs.	Active Coating Ice Protection <u>Prof. Dr. David Seveno (KULeuven)</u>
14:45 hrs.	Coffee Break & time for networking
15:00 hrs.	BPG Session, Chairman Prof. Dr. Louis. Pitet
15:05 hrs.	From Catalysis to Industrialization: Bottlenecks in Polyurethane Recycling <u>Prof. Dr. Pieter Billen (Univ. Antwerp)</u>
15:40 hrs.	From Molecular Precision to Functional Materials <u>Prof. Dr. Nezha Badi (UGhent)</u>
16:15 hrs.	Visit Lab Materiaalkunde MTM
17:00 hrs.	Closure and networking drinks

Our sponsors





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Location:

KULeuven Materiaalkunde MTM Kasteelpark Arenberg 44, 3001 Heverlee (Belgium),
The Workshop talks will be held in room **02.30** and reception in room **01.30**, both located at the MTM main building.

Price

Free for members ATIPIE, BPG, AFTPVA, NVVT, students & speakers.

Other attendees €100 (VAT included),

**The payment has to be made by transfer on the ATIPIE banking account number
BE22 2710 6182 9347 before September 25th 2026.**

Please mention your first name and last name as communication on your bank transfer.

Registration before 25/09/26 required.

€100 no-show fee if not cancelled before 28/09/26.

To cancel your registration please contact by mail info@atipic.be

Registration

Coming up ATIPIE.BE events in 2026

- October 10th: ATIPIE Relax at Louvain, cultural excursion for members only
- December 3rd: ATIPIE Webinar (under construction)

Coming up ATIPIE.BE events in 2027

- February 2nd: ATIPIE all-day Seminar at Tubize (BE)

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Where Polymers meet Coatings

13:35 hrs. New Siloxane Resins for Heat-Resistant Coatings and Hybrid Coating Systems Dr. Jean-Paul Lecomte (BRB bv)



Bio: Jean-Paul Lecomte joined Dow Corning in 1994 in R&D to develop new silicone sealants. He subsequently worked for several years in the development of new powdery additives for detergent (antifoam) and cementitious materials, and lead the technical service team for the silicone portfolio for construction chemical segment of Dow Corning and then Dow till 2024. He is now leading product and application development for silicone portfolio for coating at BRB bv in Netherlands. Jean-Paul Lecomte holds a Master degree and a PhD in chemistry from the University of Brussels, Belgium

Abstract. Silicone resins are widely used in protective and heat-resistant coatings due to their unique hybrid organic–inorganic structure and excellent thermal stability. However, conventional systems often face limitations in balancing hardness, flexibility, and processability—particularly in solvent-free formulations. This work investigates the development of a new methyl–alkyl silicone resin, Siloen® SR 838, designed to address these challenges. Through a ternary mixture study with established methyl (SR 833) and methyl–phenyl (ISR 122 TC) resins, the influence of resin composition on coating performance was evaluated using hardness and flexibility measurements.

14:10 hrs. Active Coating Ice Protection Prof. Dr. David Seveno (KULeuven)



BIO: Prof. David Seveno is Associate Professor in the Department of Materials Engineering at KU Leuven and leads research within COMPLEXURF, the Laboratory of Complex Surfaces and Interfaces. His work focuses on surfaces, interfaces, and wetting phenomena, combining experimental approaches with modelling to understand and control how liquids interact with materials across length scales and temperature ranges. His research spans various topics such as molecular-scale interfacial processes, wetting dynamics, icephobic coatings, superhydrophobicity, cellulose-based materials, fibre-reinforced composites, and liquid metals. Through these activities, he connects fundamental interfacial science with the design of functional surfaces and advanced materials for environmental and industrial applications.

Abstract: Passive icephobic coatings reduce ice adhesion and delay freezing by relying on intrinsic surface properties such as low surface energy, controlled roughness, or lubricant infusion, without external energy input. However, their performance often decreases rapidly when in service. Active ice protection systems overcome this limitation by supplying energy to prevent or remove ice, most commonly through electro-thermal heating based on Joule's effect, and increasingly through photo-thermal conversion using light-absorbing materials. Nanocarbon-based polymer composite coatings offer a promising alternative by embedding conductive fillers, such as carbon nanotubes (CNTs) or graphene, directly within a polymer matrix. The combination of a tailored polymer phase with conductive nanofillers enables lightweight, conformal, and scalable coatings with tunable electrical, thermal, and surface properties. In this study, multifunctional de-icing coatings based on CNT-filled epoxy nanocomposites were developed. Under applied electrical power, this network enabled rapid and spatially uniform heating, leading to complete ice removal in as little as ~20 s. Defrosting was achieved at relatively low power densities of 0.2–0.4 W cm⁻², demonstrating high electro-thermal efficiency. The nanocarbon phase may also contribute to photo-thermal heating under irradiation, further broadening the functionality of the coating.



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15:05 hrs. From Catalysis to Industrialization: Bottlenecks in Polyurethane Recycling Prof. Dr. Pieter Billen (Univ. Antwerp)



Bio: Pieter Billen is a chemical engineer and professor at the University of Antwerp, where he leads the iPRACS research group. The group studies the circularity of organic materials, and aims at supporting industrial process improvements. iPRACS combines solid expertise profiles in process engineering, circularity assessments, organic chemistry and reaction engineering. Pieter Billen has thus far published over 70 peer-reviewed papers, 3 patents, and supervised 7 graduated PhDs. He currently is coordinator of the MOSA-PUR FWO-SBO project. Besides technological projects on polyurethane, polyamide and rubber material platforms, Pieter Billen is increasingly studying the long-term transitions in the chemical industry, by translating thermodynamic considerations into competitiveness assessments.

Abstract: For decades, we have been developing several catalytic pathways to convert polyurethanes back into molecular fragments, mostly through a nucleophilic solvolysis. Furthermore, we continue to perfect macromolecular structures to ensure tailored and facile recovery, or make polymerizations easily reversible. However, at present, industrial polyurethane recycling, and by extension recycling of nearly all engineering polycondensates, is at its infancy. Some pilot operations have emerged, and sporadically private capital is raised for new ventures. As it stands, the industrial chemical recycling capacity for polyurethanes is merely a droplet in the global market. It appears that several bottlenecks are still to be addressed, even for large-scale recycling of the simplest and most widespread foam formulations, i.e., HR foam and TDI conventional. In this talk, I highlight the present knowledge and engineering gaps, and contextualize our current efforts in addressing these. A first major gap is the lack of thermodynamic interaction data of macromolecules like polyols, severely limiting process engineering. We address this in quantum-to-plant multiscale models, helping to optimize separation processes. A second major gap is the detailed compositional and reactivity knowledge for all moieties in complex formulations, addressed by high-throughput screening. And finally, a third major gap is the offtake uncertainty, with fluctuating feedstock prices, increasing imports, and complex formulation research. Next to the associated entrepreneurial approach, we have to increase design-from-recycling formulation efforts, through more advanced physical knowledge of complex macro-molecular interactions. Ultimately, private investments, desperately needed to move circularity forward, are subject to risk inventories. This perspective might provide a solid compass for continued scientific efforts.

15:40 hrs. From Molecular Precision to Functional Materials Prof. Dr. Nezha Badi (UGhent)



Bio: Nezha Badi is an Assistant Professor at Ghent University (Belgium), working with Prof. Filip Du Prez on synthetic sequence-defined macromolecules and functional polymer materials for various applications. She received her PhD in Chemistry from the University of Évry Paris-Saclay under the supervision of Prof. Philippe Guégan, where she worked on precision polymer synthesis and cyclodextrin-based nanopore materials. Her postdoctoral research in Strasbourg with Dr. Jean-Paul Behr and Dr. Jean-Serge Remy focused on functional polymers for gene delivery, followed by work in Potsdam with Dr. Jean-François Lutz on stimuli-responsive and precision polymers. She was appointed Assistant Professor at the University of Strasbourg in 2011 before moving to Ghent in 2015.

Abstract; Sequence-defined macromolecules offer precise control over chain length, monomer identity, sequence, and end groups, creating new opportunities to connect molecular structure with material properties and function. A key challenge is to translate this molecular precision into scalable synthetic approaches and applications relevant to industrial polymer materials.

This presentation will highlight practical routes to chemically diverse abiotic sequence-defined macromolecules, including strategies that simplify iterative synthesis and purification.[1-2] These approaches provide access to well-defined structures that can be used to study how sequence influences material behavior and to introduce specific molecular functions into polymer materials. Particular attention will be given to robust sequence-defined oligoamides used as molecular taggants for material identification, traceability, and anticounterfeiting.[3] These precision macromolecules can withstand demanding polymer-processing conditions while remaining detectable and fully decodable by mass spectrometry. Such characteristics make sequence-defined macromolecules attractive candidates for introducing durable molecular information into industrial materials, including coatings and other formulated polymer products.